

# **3D Galaxy II**

GH-WIU02

English

User's Manual

# 3D Galaxy II Liquid Cooling System

## *Caution*

1. Before pouring liquid coolant into the tank to test the liquid cooling system, please reconfirm all the tubes have been fastened and the tube clips are in the right position.
2. While the water in the tank is lower than the low water-level, the red light on the bottom of PCB will blink. (Please purchase GIGABYTE™ liquid coolant to fill it.)
3. When the liquid is lower than the low water-level, the system will turn off automatically within four seconds after detection of water inadequacy.
4. While removing the tubes for disassembly, please make sure to keep all the devices away from any electronic part. (Please refer to disassembly process instruction)

## *The following are not covered by the warranty*

1. Use the product incorrectly or in a manner other than the designed purpose.
2. Nonobservance of the proper operation provided. (e.g. over-clocking)
3. Malfunction due to interference from other devices.
4. Unauthorized modification of the product.
5. Consequential damage to other objects due to the product's fault.
6. Malfunction arising from casualties (earthquake, thunder, fire, and flood).
7. The product's warranty label has been removed or damaged.
8. The devices inside, including power supply, hard disk, CD-ROM drive, motherboard, ventilator, etc, are not detached from the casing prior to the transportation of the computer product, resulting in damage to the casing or computer-related devices.
9. Any loss caused by failure to follow the installation process contained in the user manual.
10. Any damage to the system arising from coolant leakage due to improper installation.
11. Use only GIGABYTE™ Liquid Coolant. Any damage arising from the use of liquids other than GIGABYTE™ Liquid Coolant is not covered by the warranty.

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## 1. Accessories List



(1) Radiator



(2) Pump + Tank  
Assembly



(3) MOSFET Air  
Cooling Fan



(4) Waterblock



(5) 4 - way Splitter  
Valve



(6) 1 / 2 inch Tube



(7) Tube Clips



(8) Screws



(9) Intel® Pentium® 4  
LGA775 Spring  
Screws



(10) Intel® Pentium® 4  
LGA775 Back  
Plate



(11) Intel® Pentium® 4  
LGA775 Bracket



(12) AMD K8 / AM2  
Clip



(13) AMD K8 / AM2  
Bracket



(14) Fan Speed Con-  
trol Box



(15) PCI Rear Fan  
Speed  
Controller



(16) Radiator Rack



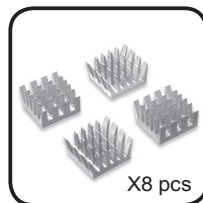
(17) Pump Power Cord



(18) Fan 1 to 2 Power Cord



(19) Fan Speed Control Power Cord



X8 pcs

(20) Heat Sink for Memory



X2 pcs

(21) Bend Proof Spring



X4 pcs

(22) Nylon Tie



(23) Grease

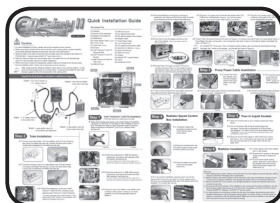


(24) Gigabyte Liquid Coolant

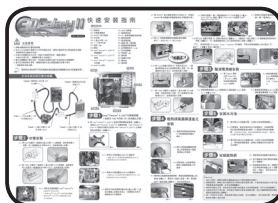


X2

(25) Velcro



(26) Quick Installtion Guide



CAUTION

No.8 Screw: a – Secure PCI Rear Fan Speed Controller ( 1pc )  
 b – Secure Radiator ( 3pcs )  
 c – Pump + Tank Assembly ( 2pcs )

## 2.Specification Instruction

Mosfet cooling fan	Fan size	80 x 80 x 25 mm
	Fan speed	2000 RPM
	Fan Connector	3 pin
	Bearing	EBR
	Noise	19 dBA
Pump	Dimensions	61 x 60 x 46 mm
	Maximum Capacity	400 L/hr
	Noise	20 dBA
	Bearing	Ceramic Bearing
	Life time	70000 hr (MTBF)
Radiator	Dimensions	125 x 197 x 64 mm
	Material	Aluminum
	Fan size	120 x 120 x 25 mm
	Fan speed	1200 ~ 2600RPM
	Fan Connector	3 pin
	Bearing	2 Ball
	Noise	19~39 dBA
Tank	Dimensions	100 x 53 x 172 mm
	Capacity	220cc.
Valve	Dimensions	inlet:1/2"; outlet:1/4"*2,1/2"*1
	Material	POM
Tube	Dimension	1/2 inch
	Material	PVC, UV sensitive
Coolant	Capacity	600cc.
	Color	Lite Blue
Compatible CPU	Intel® Pentium® Extreme Edition Series	
	Intel® Pentium® D Processor Series	
	Intel® Pentium® 4 Processor Series (LGA775)	
	Intel® Core™ 2 Duo Processor Series	
	AMD AM2™ Series	
	AMD Athlon™ FX Series	
	AMD Athlon™ 64x2 Series	
	AMD Athlon™ 64 Series	

## 3.Feature Instruction

- 1.Super huge copper base and unique water path design.
- 2.Long-lived, quiet and powerful ceramic bearing pump.
- 3.Auto-induction of low water-level ( LWP ) and over temperature ( OTP ) Protection.
- 4.Aluminum 4-way water path design radiator with 12 cm adjustable fan for lower noise.

- 5.Delicate sparkly blue LED light design tank; easy refilling coolant.
  - 6.Well-executed liquid cooling radiator fits most existed PC chassis.
  - 7.Multipurpose nanometer GIGABYTE™ coolant.
  - 8.1/2inch UV soft tube; unique design to reduce bending needs.
  - 9.Fully support cooling solution for the surrounding component of CPU (Mosfet).
  - 10.GIGABYTE™ exclusive 4-way splitter valve design for faster replacement and add new cooling equipment.
  - 11.PCI Rear Fan Speed Controller
  - 12.Free heat sink for memory
  - 13.Wide range use for AMD K8/AM2;Intel® Pentium® 4 LGA 775.
- <Recommended chassis to use: GIGABYTE™ 3D Aurora, Triton, Poseidon series Chassis>

## 4.Liquid Cooling System Installation

Please follow the instruction.

### 4-1 Installation Preparation

Please make sure the power of PC has been turned off.

Tool needed: scissors, GIGABYTE™ coolant, grease, screwdriver.

### 4-2 Intel® Pentium® 4 LGA775 Back Plate Installation

#### **(For AMD series CPU, please ignore this step)**

- 4-2-1 Take off the double-side sticker on the Intel® Pentium® 4 LGA775 Back Plate (as Figure a), and stick it on the back of Intel® Pentium® 4 LGA775 CPU with aligning four holes on Intel® Pentium® 4 LGA775 Back Plate and four holes on the back of Intel® Pentium® 4 LAG775 CPU motherboard (as Figure b).

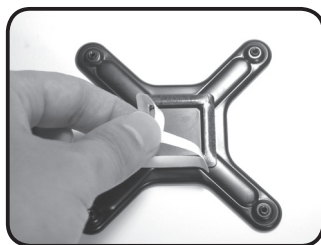


Figure a

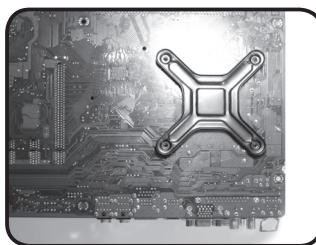


Figure b

### 4-3 PCI Rear Fan Speed Controller Installation (as Figure a/b)

4-3-1 Place PCI rear fan speed controller to the back of the chassis (place on the lower PCI is recommended as Figure c.)



Figure a

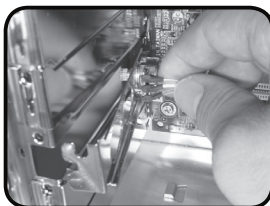


Figure b



Figure c

### 4-4 Tube Installation

After measuring the distance between each parts of the cooling system, cut the tubes into five suitable sizes as it shows below. To get the right length for each tube, strongly recommend to fit all the components in the right position.

Liquid Cooling System complete installation diagram.

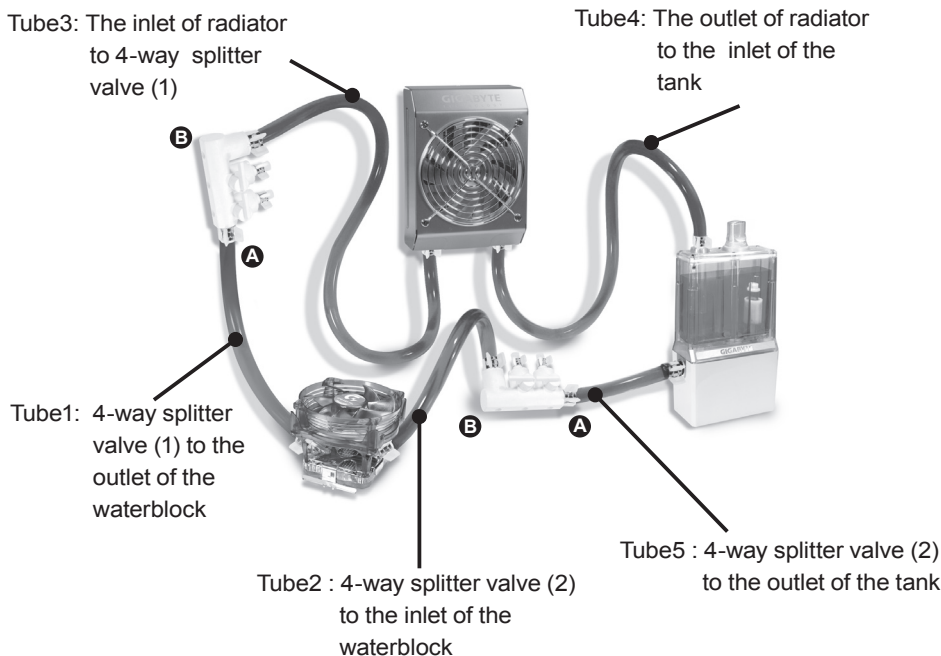
Tube3: The inlet of radiator to 4-way splitter valve (1)

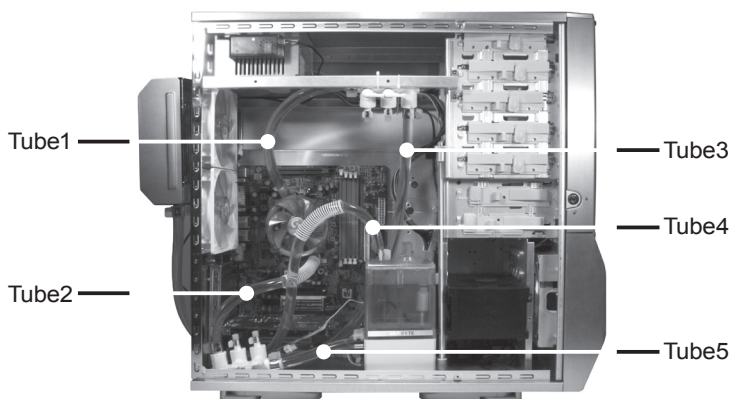
Tube4: The outlet of radiator to the inlet of the tank

Tube1: 4-way splitter valve (1) to the outlet of the waterblock

Tube2 : 4-way splitter valve (2) to the inlet of the waterblock

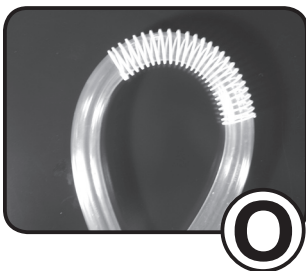
Tube5 : 4-way splitter valve (2) to the outlet of the tank





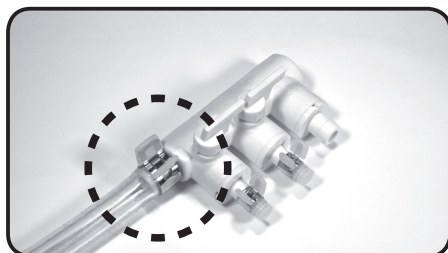
CAUTION

While placing tube, please do not bend the tube in order to avoid obstructing water flow (as the right Figure under). Besides, if needed, please use bend proof spring on the tube while bending it to avoid obstructing water flow efficiency.



## 4-5 4-way Splitter Valve to the Tube on Waterblock Installation

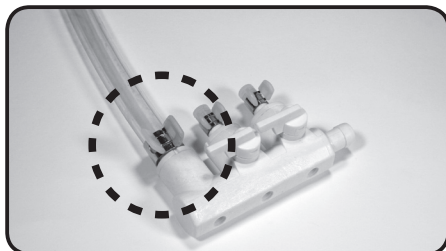
4-5-1 Connect one side of tube 1 to 4-way splitter valve (1) A as it shows in the picture and fasten the tube clip.



4-5-2 Connect the other side of tube 1 to the outlet of waterblock and fasten the tube clip.



- 4-5-3 Connect one side of tube 2 to 4-way splitter valve (2) B as it shows in the figure and fasten the tube clip.



- 4-5-4 Connect the other side of tube 2 to the inlet of waterblock and fasten the tube clip.

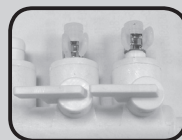


The 2 splitters in the middle of 4-way splitter valve can be used to support VGA, chipset liquid cooling system or other liquid cooling system.



CAUTION

If the 2 splitters in the middle of 4-way splitter valve are available, please do not take off the cap and switch them to horizontal to avoid leakage.



## 4-6 Radiator to 4-way Splitter Valve Installation

- 4-6-1 Thread Tube 3 through the hole on PCI slot (as Figure a) to connect one side of tube 3 to 4-way splitter valve (1) B and fasten the tube clips (as Figure b).

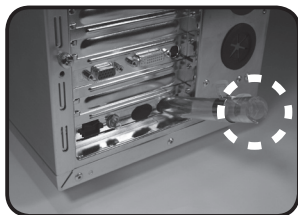


Figure a

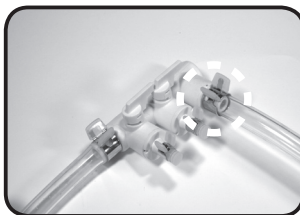


Figure b

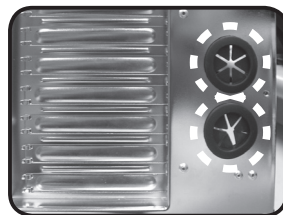
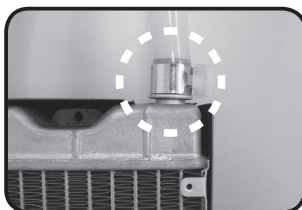


Figure c



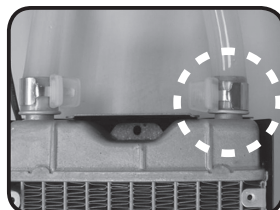
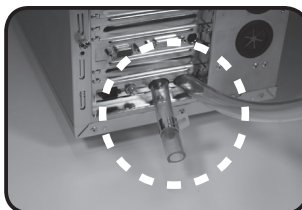
For GIGABYTE™ 3D Aurora, Triton or Poseidon series user, the tube can be threaded through drainage inlet/outlet on the chassis.( as the two holes on the right in Figure c )

- 4-6-2 Connect the other side of tube 3 to the inlet of radiator and fasten the tube clips.



## **4-7 Radiator to the Inlet of Water Tank**

- 4-7-1 Thread Tube 4 through the hole on PCI slot to connect one side of tube 4 to the outlet of radiator and fasten the tube clips.

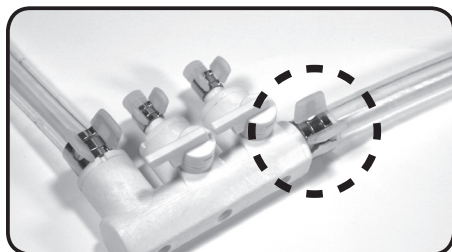


- 4-7-2 Connect the other side of tube 4 to the inlet of the tank and fasten the tube clips.

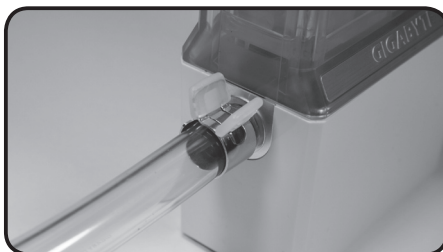


## **4-8 4-way Splitter Valve to the Outlet of Water Pump**

- 4-8-1 Connect one side of tube5 (as Figure shown) to 4-way splitter valve(2) and fasten the tube clips.



- 4-8-2 Connect the other side of tube5 to the outlet of the pump and fasten the tube clips.



## 4-9 Waterblock Installation



Please make sure to take off the "CAUTION" sticker and apply the grease on the CPU surface evenly.



Note: AMD K8 Bracket can be removed from waterblock (as Figure a) to adjust the appropriate installation direction. (as Figure b/c)

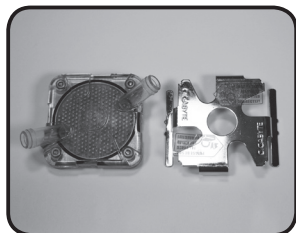
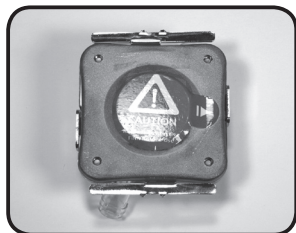


Figure a

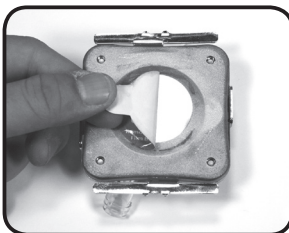


Figure b

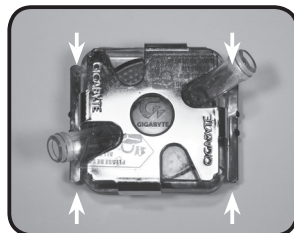
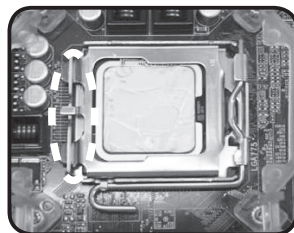


Figure c

## 4-10 Intel® Pentium® 4 LGA775 Bracket Installation

4-10-1 Replace AMD K8 Bracket with Intel® Pentium® 4 LGA775 Bracket (accessory No. 11) ( Figure a ). Place the waterblock on the top of Intel® Pentium® 4 LGA775 CPU( Figure b ) and adjust the appropriate installation direction ( Figure c ).



Figure a

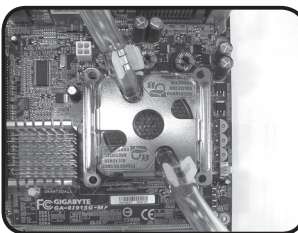


Figure b

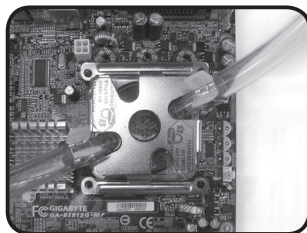
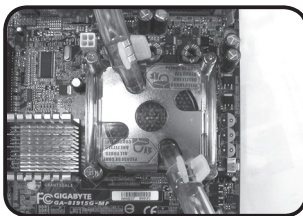


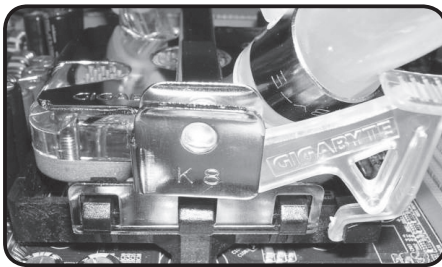
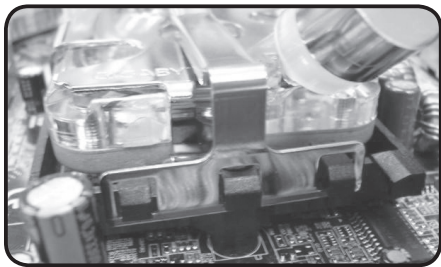
Figure c

- 4-10-2 Secure Intel® Pentium® 4 LGA775 motherboard with attached spring screws.



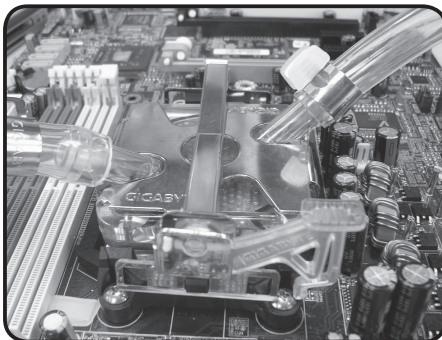
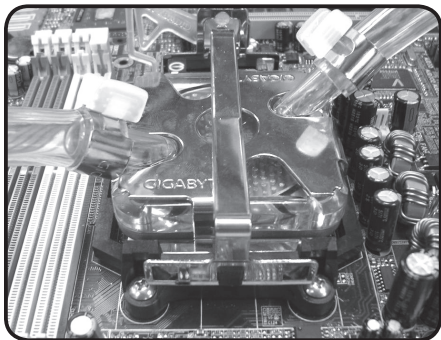
## **4-11 AMD K8 Clip Installation**

- 4-11-1 Align the AMD K8 Clip to three raised points on the CPU.
- 4-11-2 Push down the bar to surely secure.



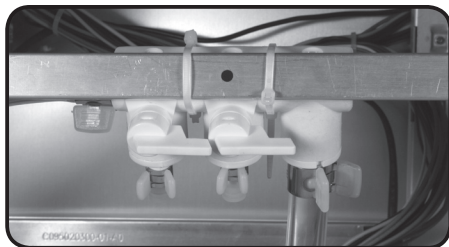
## **4-12 AMD AM2 Clip Installation**

- 4-12-1 Align the AMD K8 clip to the raised point on the CPU .
- 4-12-2 Push down the bar to surely secure.

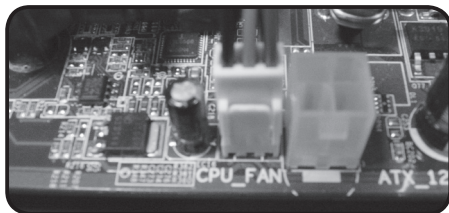


### 4-13 Fasten 4-way Splitter Valve

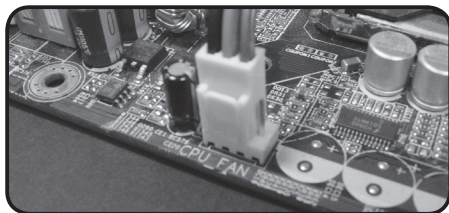
- 4-13-1 Using the nylon tie to fasten 4-way splitter valve on trestle of the chassis. If there is no trestle available, try to find an applicable place to fasten it.



- 4-14-2 Plug the power cord of MOSFET air cooling fan to the socket on motherboard CPU fan.



a :3-pin CPU fan socket



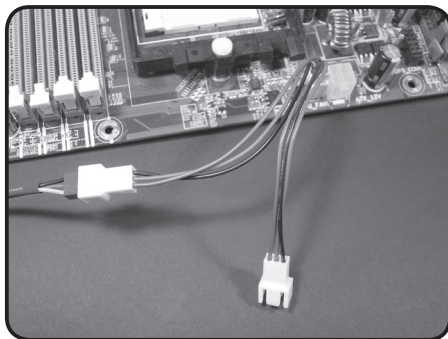
b: 4-pin CPU fan socket (Intel® Pentium® 4 LGA775)

### 4-14 MOSFET Air Cooling Fan Installation

- 4-14-1 Place MOSFET air cooling fan on the top of waterblock and make sure that four feet of the air cooling fan are secured on waterblock.



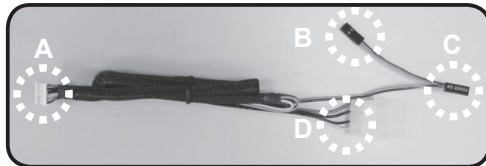
- 4-14-3 Plug the power cord of MOSFET air cooling fan into fan 1 to 2 power cord.



## 4-15 Pump Power Cord Installation

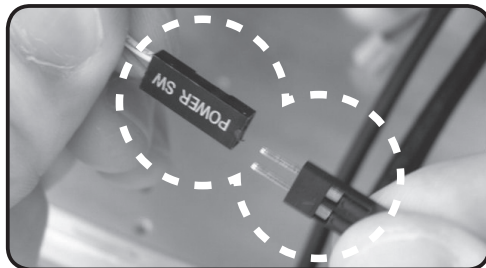
### 4-15-1 Prepare Pump Power Cord

- a : 6-pin connector
- b : female 2-pin connector
- c : male 2-pin connector
- d : 4-pin connector

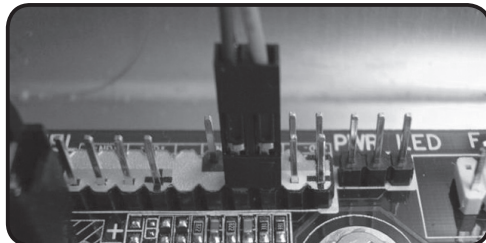


### 4-15-2 Connect the Power SW (female 2-pin connector) from the chassis's panel with the pump power cord male 2-pin connector.

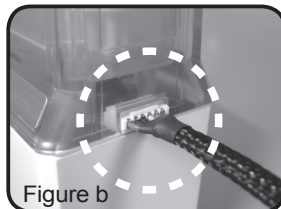
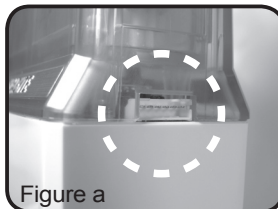
- a : Power SW (female 2-pin connector) from the chassis's panel
- b : Pump power cord male 2-pin connector



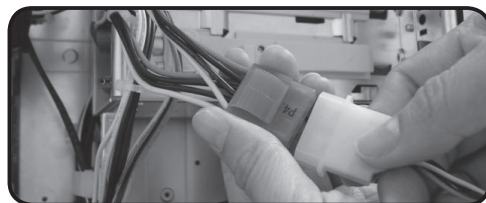
### 4-15-3 Connect the pump power SW cord female 2-pin connector with "+PW-" jumper on the motherboard.



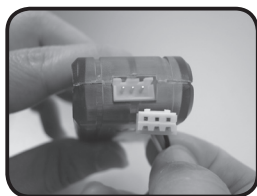
### 4-15-4 Connect the pump power cord 6-pin connector with the back of the tank, (as Figure a / b )



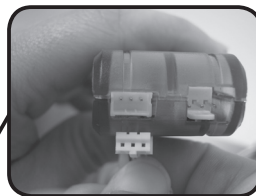
### 4-15-5 Connect 4-pin power supply connector with the 4-pin pump cord connector.



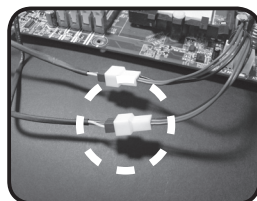
## 4-16 Fan Speed Control Box and Power Cord Instruction



Fan Speed Control Box Socket



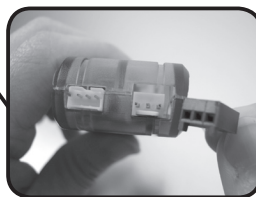
PCI Rear Fan Speed Control Box Connector Power Cord



Connect the other side of power cord with fan 1 to 2 power cord



Fan Speed Control Box

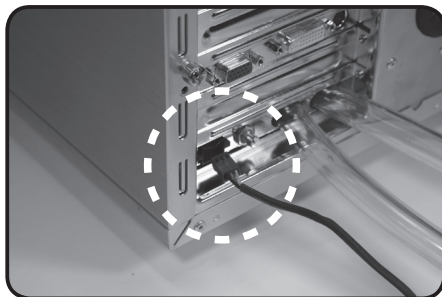


Radiator Fan Speed Control Box Connector Socket

## 4-17 Fan Speed Control Box Installation

Tool needed: Fan Speed Control Box , Fan Speed Control Box Connect Line.

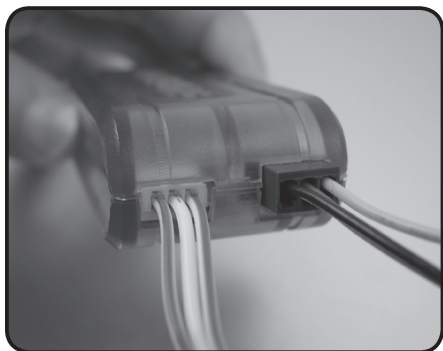
4-17-1 Thread the radiator fan connector through the hole of PCI rear fan speed controller.



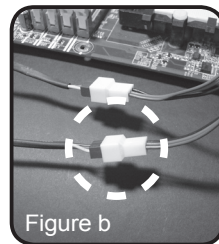
4-17-2 Plug the connector from the PCI rear fan speed controller into the fan speed control box.



- 4-17-3 Plug the radiator fan power cord into the fan speed control box.

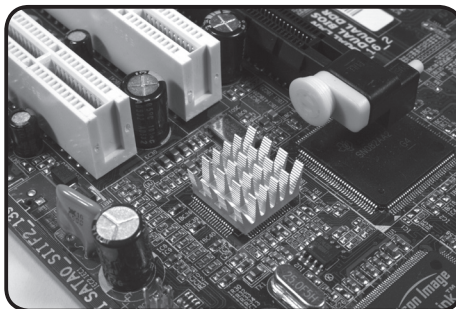
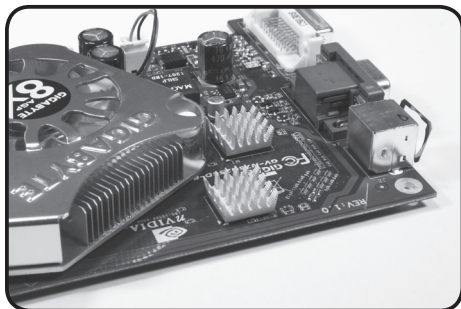


- 4-17-4 To accomplish installation, plug the power cord of fan speed control box into the connector on the fan speed control box (as Figure a) and plug the other side of the power cord into the available 1 to 2 socket (as Figure b).



## 4-18 Heat Sink Installation

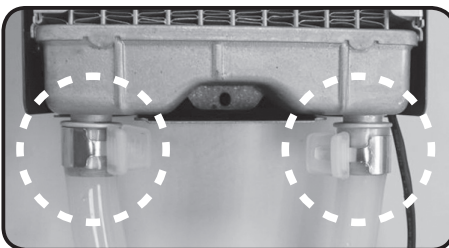
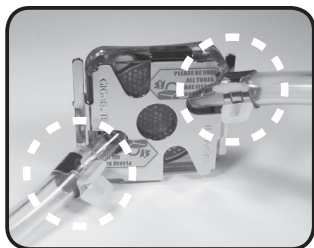
- 4-18-1 Heat sink( 8 pcs) can be pasted on the small chips on the motherboard or VGA card to lower the temperature.



## 5. Liquid Cooling System Installation and Test

Before pouring liquid coolant into the tank to test the liquid cooling system, please remove the tank from the chassis to avoid damaging other components.

Before turning on the power, please confirm that all the tube clips are fastened; leakage of liquid coolant due to improper installation may damage the system that is not covered by warranty. (as figure shown)



CAUTION

Use only GIGABYTE™ liquid coolant; any damage arising from using other liquid product is not covered by warranty.

### 5-1 Liquid Cooling System Installation and Test

Tool needed: Coolant

- 5-1-1 Open the lid of the tank to pour in liquid coolant and close the lid.



- 5-1-2 Turn on the power until all liquid coolant drains into the tubes; the red light on the bottom of the PCB will blink and bleep; the system will turn off automatically within 4 seconds. (This is normal or initial refilling of liquid coolant since the tube and radiator are not full of liquid.)



- 5-1-3 Open the lid of the tank again to refill the tank with liquid coolant and then close the lid. Turn on the power one more time and repeat this step until the water is no longer lower than the low water-level.



Note: For the first time of pouring liquid coolant into the tank; the radiator should be lay down flat to facilitate exhaust air to ensure the liquid cooling system to function silently. Installing the radiator in accordance with the following step 5-2 ; make sure all the air bubble in the tube has been removed to ensure the performance of cooling.

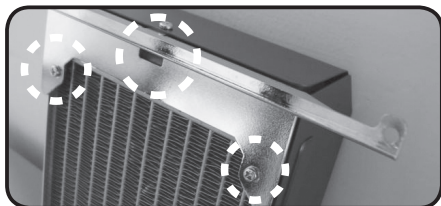


CAUTION

Be aware of abnormal leakage. If the installation was correct and the tube clips are fastened, and the liquid cooling system leaks, please turn off the power immediately and drain out all coolant. Contact GIGABYTE™ dealers or GIGABYTE™ service center.

## 5-2 Radiator Installation

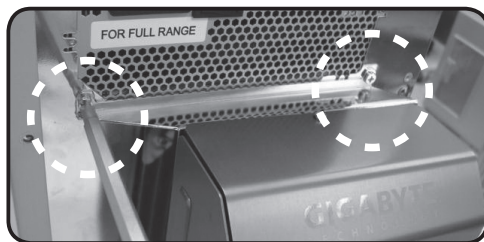
- 5-2-1 Lock the radiator rack to the radiator with screws.



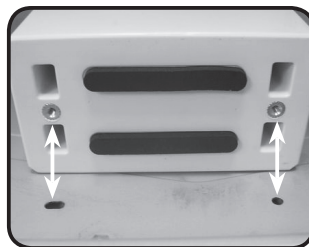
- 5-2-2 Remove the 2 screws on the power supply at the rear of chassis as shown.



- 5-2-3 To accomplish liquid cooling system, align the 2 screw holes on the radiator rack to the 2 screw holes on the power supply and fasten them up.



With GIGABYTE™ 3D Aurora, Triton, Poseidon series, water tank can be placed inside of the chassis. [use 2 screws (b), please refer to accessories list]  
Velcro could be used to place the tank while using the chassis other than 3D Aurora, Triton and Poseidon series.



## 6. Liquid Cooling System Disassembly

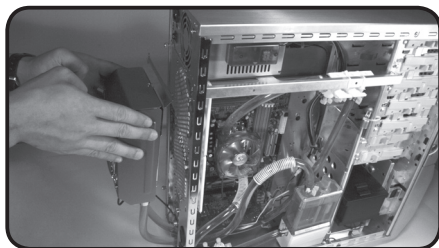
Tool needed: Pail, screwdriver

Preparation: Please place the chassis on a table and a pail on the floor.

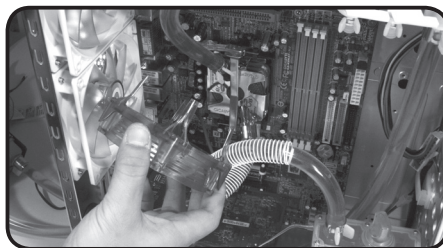


While removing the tubes for disassembly, please make sure to keep all the devices away from any electronic part.

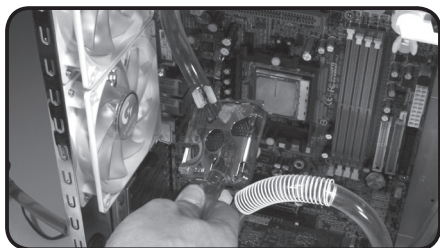
- 6-1-1 Remove radiator from the rear of the chassis and lay it on the table.  
(Caution: Do not remove the tube at this point)



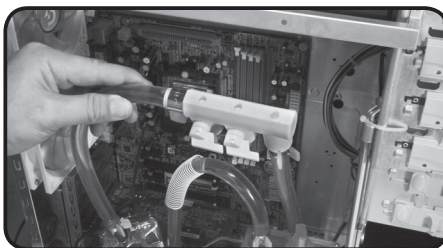
- 6-1-2 Remove MOSFET air cooling fan from the waterblock.



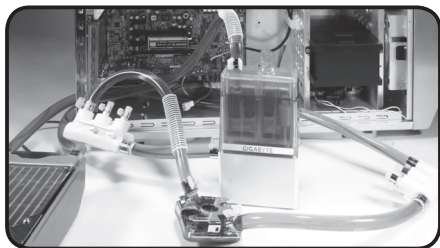
- 6-1-3 Release the clip of waterblock from CPU.  
(Caution: Do not remove the tube at this point)



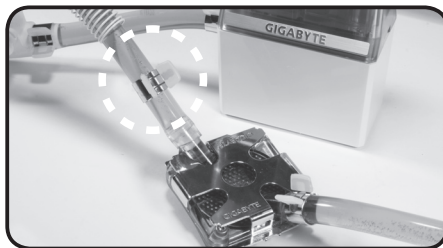
- 6-1-4 Cut and remove the nylon tie which is used to fasten 4-way splitter valve.



- 6-1-5 Remove pump + tank and 4-way splitter valve from the chassis; and set a pail on a lower position to fill the coming out coolant.



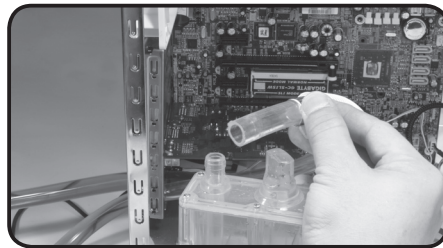
- 6-1-6 Release the tube clip on the inlet of the waterblock; and place the waterblock on the top of the pail.



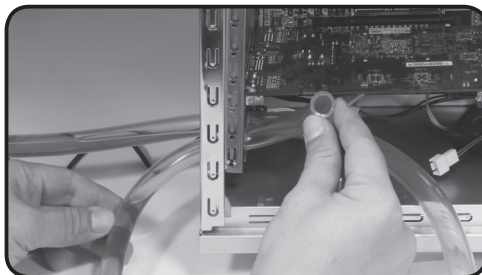
- 6-1-7 Remove the tube; let the water from waterblock and the tube drift into the pail.



- 6-1-8 Release the tube clip on the inlet of the tank and make sure if all the coolant drifts out from the tube. Remove the tube, tube clip and spring.



- 6-1-9 Remove tube from PCI slot and be careful to avoid the leakage. Let the coolant drift into the pail. For the tube on the other side of radiator, please repeat this step until all the coolant drifts out.



## 7. 4-way Splitter Valve Instruction and User Manual (Adding VGA waterblock and chipset waterblock without disassembly)



Ex. GIGABYTE™ blue eye and chipset waterblock

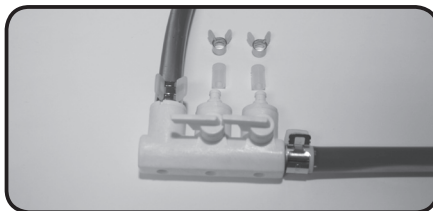


Please make sure to turn off PC power before installation.

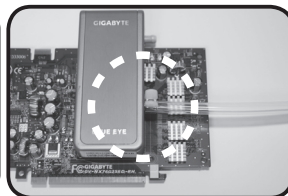
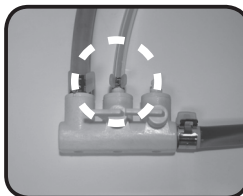
- 7-1 Remove the caps and tube clips from 4-way splitter valve.



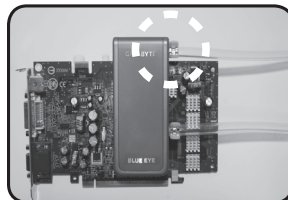
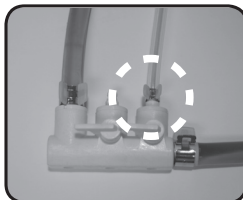
Do not switch on at this point.



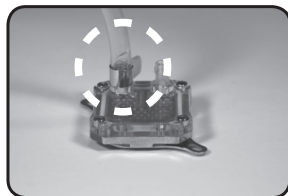
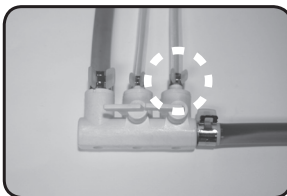
- 7-2 Cut a tube into suitable size; connect one side of the tube with the first splitter on 4-way splitter valve(1) and connect the other side with the inlet of VGA Blue Eye and fasten the tube clips.



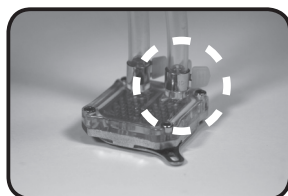
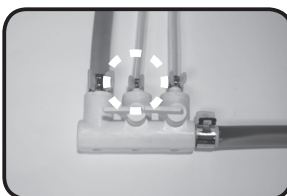
- 7-3 Cut a tube into suitable size; connect one side of the tube with the second splitter on 4-way splitter valve(2) and connect the other side with the outlet of VGA Blue Eye and fasten the tube clips.



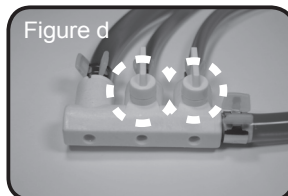
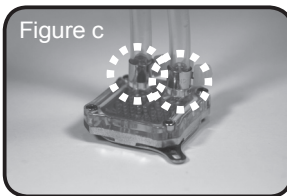
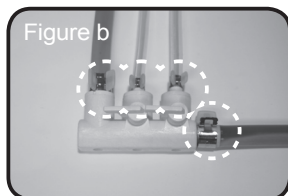
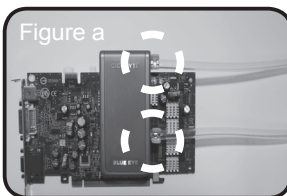
- 7-4 Cut a tube into suitable size; connect one side of the tube with the second splitter on 4-way splitter valve(1) and connect the other side with the outlet of chipset waterblock and fasten the tube clips.



- 7-5 Cut a tube into suitable size; connect one side of the tube with the first splitter on 4-way splitter valve(2) and connect the other side with the inlet of chipset waterblock and fasten the tube clips.



- 7-6 Before turning on the power, please make sure all tube clips are fastened (as shown on Figure a, Figure b and Figure c) and switch on the 4-way splitter valve.



- 7-7 To accomplish liquid cooling system, after turning on the power, appropriately pour coolant into the tank.



CAUTION

While removing the tubes for disassembly, please make sure to switch off 4-way splitter valve, turn off the power and keep all the devices away from any electronic part.

[illegible]